

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 1

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: mf Date: 09-08-20 Tooling: _____

Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____

Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2906	Rev B

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 002

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2906 if necessary/Debur ends

3-Acid etch and Alodine tube per QSI 005 4.1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 2

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 3

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Item Name: Replacement Skidtube

Stop



Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid)

BE 09/08/20

2-Open holes to 0.500" as per Dwg D2906 without cutting fluid

BE 09/08/20

3-Countersink holes as per Dwg D2906 without cutting fluid

4-Deburr and blow out all chips from inside of tube

BE 09/08/20

5-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty ☐ Part Number ☐ Description ☐ BatchA/R ☐ ☐ ☐ Sikaflex-291 ☐

Sikaflex expire date: 10-02-20

Start Time: 10:00 Date: 9-8-21

Fin Time: 8:20 AM Date: 9/8/24

pick:

Qty P/N description
1 D2926-3 Web

B/N 13-51360

ALM 9-8-21 (H)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 4

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
	BENDING MACHINE - CROSSTUBES					D		M 9/8/24	
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	1-Bend as per program COB41FWD & COBRAFT on CNC Bender and Folio FT								
	2-Cut tubes as per Dwg. D2906 & per template DT8185B & DT8185BC								
150		0.00							
	Skidtubes					D		M 9/8/24	
Skidtubes	Memo	0.00							
Skidtubes	1-Cut tube as per dwg and ensure ends are perpendicular to ridge								
	2-Deburr ends								
	3-Prepare tube for welding, remove alodine as required.								
160		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00				(40)			
Quality Control									

→ Sorlos/bz

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 5

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

0.00



Large Fab

Large Fab

Memo

0.00

Large Fab

1-Weld crossbolt spacers D2579 as per Dwg. D2906 and QSI 004.
For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill
A/R ☐ ☐ Aluminum Rod *mill 682*

BE 09/08/25

2-Grind welds as per Dwg D2906 Grind flush ridge made from bending

3-Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper not to hit web. Debur

4-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2906, Debur holes

5-Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Debur

6-Drill pilot holes for Tow ring using DT8091-3 , open to .640" and Debur

D H 9/8/25

180

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

*=> 8 09/08/25**(u) /*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 6

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	2) 500/08/26			(X0)	/		
200 HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo	0.00 0.00	MO009/08/27			(X1)			
210 Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: 1:30pm OVEN TEMPERATURE: 320°F FINISH TIME: 2:00pm	0.00 0.00	→ 90 09/08/27			24	0		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 7

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

QC3- Inspect Part Finish

0.00

BL 09-08-28

①.



QC

Memo

0.00

Quality Control

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 8

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1-Install inserts & wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 M 112391Sikaflex expire date: 10/20

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906

3-Inspect for foreign object per QSI 024

4-Install D2855 Fwd & Aft Cap as per Dwg D2906 and seal Fwd & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 M 112391Sikaflex expire date: 10/20

5-Wing Walk as per Dwg D2906 and QSI 005 4.4

Batch: M 112100

pf 09-09-01

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51357

August 20, 2009 9:59:02 AM



Page 9

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 08/20/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/27/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

25 09/09/09



Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

250

Packaging

0.00



Packaging

Memo

0.00

PPP 51363 9/9/9 QSp

Packaging

Identify and pack for shipping as per PPPD209-669-043

Location: _____

PPP Rev: _____

260

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

09/09/09

MF 09-09-09

Quality Control

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Page 1

8

Work Order ID: 51357



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190RevU/R		Manufactured	No			110	Each	0.0000	1.0000			
Ext'n -1' Beam Tube 4"												
D2926-3RevA		Manufactured	No			110	Each	1.0000	1.0000			
Web												

D R 9/8/24
B 50166

D M 9/8/24
051360

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

1

46846

1

D2579RevE

Manufactured No

170

Each

540.0000

19.0000



Crossbolt Spacer

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

540

43988

4

46434

4

46956

2

47797

9

48272

22

51314

100

51315

399

19

EE 09/08/25

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Page 2

Work Order ID: 51357



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube


Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2855RevA  Cap		Manufactured	No			230	Each	36.0000	2.0000			

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

FP6

36

50513 ✓

36

230

Each

2,528.000

4.0000



2 BR 09-09-01

* AN3-5A

Bolt

Purchased

No

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

2528

100188 ✓

224

105057

2246

15205

58

~~11707~~

4

~~BR~~ 09-09-01

August 20, 2009 9:59:01 AM

Shop Packet Print

Page 2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Work Order ID: 51357

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD10L  Washer		Purchased	No			230	Each	6,713.000	4.0000			

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	6713	
101291	16	
104885	153	
105793	236	
109632 ✓	1308	
110985	5000	

4 BR 09-09-01.

* ALS7-1032-130

Purchased

No

230

Each

3,628.000

44.0000



Insert

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	3628	
105855	16	
108606	52	
111529	1560	
111779	2000	

110511

44, BR 09-09-01.

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Work Order ID: 51357



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube


Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN3C4A  BOLT		Purchased	No			230	Each	992.0000	44.0000			

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

992

112082

40

112314 ✓

952

44 PR 09-09-01.

AN960C10L



Purchased

No

230

Each

3,502.000

44.0000

washer



Warehouse
Location

Loc Qty

Loc Code

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

3402

112116 ✓

3402

44 PR 09-09-01.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Page 5

Work Order ID: 51357

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube



Comments:

Start Date: 08/20/2009

Required Date: 08/27/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2594-3RevC		Manufactured	No			230	Each	654.0000	14.0000			
												
O-Ring, 205 Skidtube												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 654

27168 44

29908 ✓ 610

D2594-1RevC

Manufactured No

230

Each

460.0000

14.0000



Plug, 205 Skidtube



Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 460

42221 16

42807 92

43884 3

46435 2

47251 ✓ 347

14 BR 09-09-01.

14 BR 09-09-01

August 20, 2009 9:59:01 AM

Shop Packet Print

Page 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 7

August 20, 2009 9:59:01 AM

Work Order ID: 51357



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-5RevD		Manufactured	No			230	Each	26.0000	1.0000			
Wearshoe												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	2	
34806	2	
Main Warehouse		
FP19	22	
48555	2	
51257 ✓	20	
Main Warehouse		
ST	2	
45824	1	
47433	1	

1 BL 08-09-01

D3566-1RevC

Manufactured No

230

Each

43.0000

2.0000



Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	43	
46349	1	
47434	2	
48557	2	
51218	5	
51259 ✓	33	

2 BL 08-09-01

August 20, 2009 9:59:01 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

August 20, 2009 9:59:01 AM

Work Order ID: 51357



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 08/20/2009

Required Date: 08/27/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-5RevC		Manufactured	No			230	Each	24.0000	1.0000			
Gasket												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	24	
36113	1	
46186	1	
47318	1	
48167	1	
51260 ✓	20	

1 BK 08-09-01

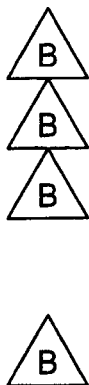
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



QTY -041	QTY -043	Part Number	Description
X		D2906-041	SKIDTUBE ASSEMBLY
	X	D2906-043	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
22	19	D2579	CROSS BOLT SPACER
12	14	D2594-1	PLUG
12	14	D2594-3	O-RING
2	2	D2855	AFT CAP
1		D2926-1	WEB
	1	D2926-3	WEB
1	1	D3564-9	WEARSHOE (REPLACES D2577-1)
1	1	D3564-11	WEARSHOE (REPLACES D2577-3)
1	1	D3564-5	WEARSHOE (REPLACES D2577-5)
1		D3564-15	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1		D3566-15	GASKET
50	44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
50	44	AN3C4A	BOLT
4	4	AN3-5A	BOLT
50	44	AN960C10L	WASHER
4	4	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
- 3) INSERT D2926-1/-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 6) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
- 7) WELDING TO BE DONE PER DART QSI 004.
- 8) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/-3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 9) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
- 10) ALL DIMENSIONS ARE IN INCHES.

RELEASED

07.09.04

B	UPDATE DRAWING FORMAT; RE-ORGANIZE; ADD STAINLESS STEEL WEARPLATES AND GASKETS CHANGE WEARPLATE HARDWARE TO SS; PG 1: ADD NOTE 10; PG 2 C7: REMOVE AFT Ø0.640 HOLE FROM -041; PG 3 C3: CORRECTED -043 CAP P/N; PG 3 D7: 38 PLACES WAS 44 PLACES;	CB	07.08.21
A	NEW ISSUE	CP	04.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN	4P	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 1 OF 3
APPROVED	16P	TITLE	SCALE
DE APPR.	11	AH-1 (209) SKIDTUBE ASSEMBLY NTS	
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

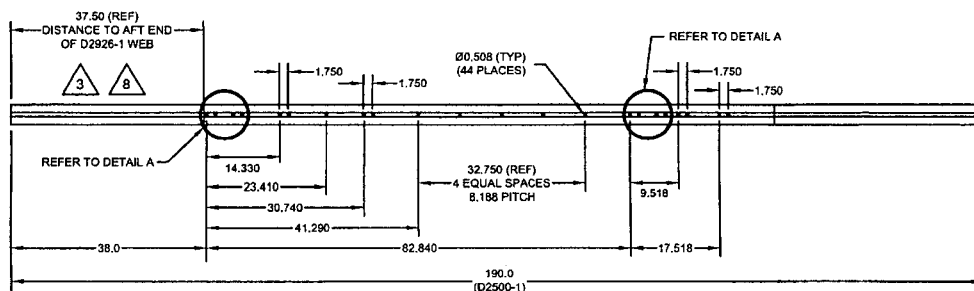
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

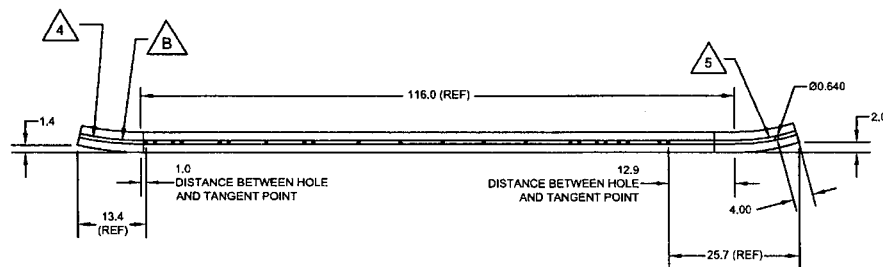
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

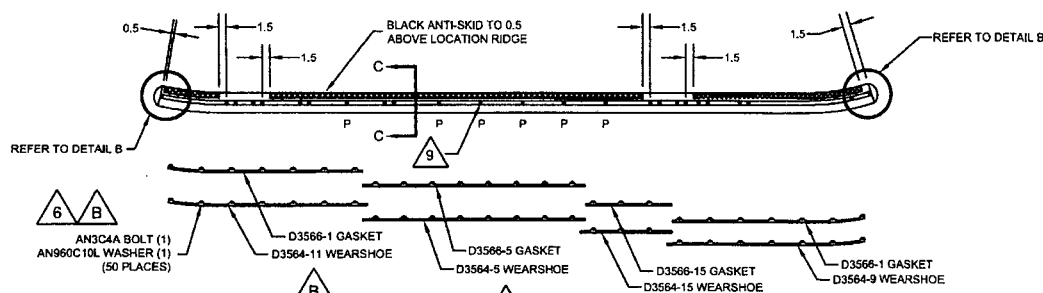
8 7 6 5 4 3 2 1



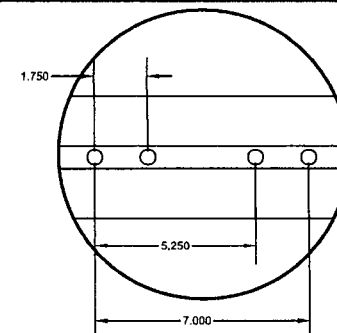
D2906-1 DRILLING DETAIL



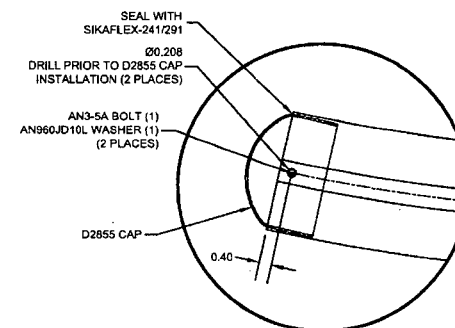
D2906-041 BENDING AND CUTTING DETAIL



D2906-041 ASSEMBLY DETAIL



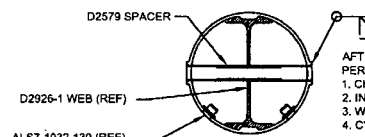
DETAIL A
SCALE 1:4



DETAIL B
SCALE 1:4

RELEASED

07.09.04



SECTION C-C
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DESIGN	9P	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	PH	D2906	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	AH-1 (209) SKIDTUBE ASSEMBLY	1:2
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

51351

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

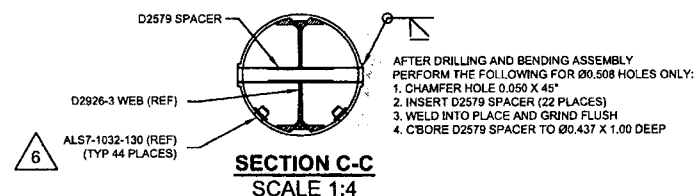
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED

07.09.04



DESIGN	40	DART AEROSPACE LTD	
DRAWN	C.B.	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. E
MFG. APPR.	21	D2906	SHEET 3 OF 3
APPROVED	40	TITLE	SCALE
DE APPR.	40	AH-1 (209) SKIDTUBE ASSEMBLY.	1:2
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 206

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 50844
Part number: D205 634 041
Description: 205 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:
Penetration:

pass[☒] fail[]
pass[] fail[]

UNACCEPTABLE

Cracks:
Undercut:
Pin holes:
Overlap (cold lap)
Porosity (surface):
Coloration:

pass[] fail[]
pass[] fail[]
pass[☒] fail[]
pass[] fail[]
pass[] fail[]
pass[] fail[]

Qualifier P. D. W.

Date of Test Coupon 09.08.13

Welder Barclay Elliott

Date of Test Coupon 09.08.13

The above named individual is qualified in accordance with AWS D17.1.2001 to weld